

A SECOND SPECIES OF TETRACHYRON (ASTERACEAE-HELLANTHAEAE)
FROM OAXACA, MEXICO

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In spite of a recent monographic study of Tetrachyron, a small Mexican genus with obscure relationships (Wussow and Urbatsch, 1979), two very distinct species have been discovered within the last two years (Turner, 1985; present paper), both from the Tehuantepec region of southwestern Oaxaca. This emphasizes the great need for additional botanical exploration of the more remote montane regions of Mexico.

Tetrachyron oaxacana B. L. Turner, sp. nov. Fig. 1.

Frutex caules glabri. Folia rhombico-ovata glabra, 3-5-nervia. Capitula 15-20, pedunculi 1-4 mm longi. Involucrum cylindricum, bracteae 5-6-seriatae, imbricatae, flavae, scariosae. Flores radii, 1-3, parvi pistillati fertiles; corollae aureae. Flores disci 5-6; corollae aureae. Achenia 4-angulae; pappus constatus e ca 12 squamis laceratis 0.6-1.0 mm longis.

Shrub to 1.5 m high. Stems terete, glabrous, reddish. Leaves opposite, glabrous, 6-8 cm long, 3-4 cm wide; petioles, 2.0-2.5 cm long, narrowly tapered (winged) from the blade; blade rhombic-ovate to rhombic-deltoid, minutely glandular-punctate, palmately 3-5 nerved, abruptly constricted below then gradually tapering along the petiole, the margins irregularly serrate, the apices acuminate. Heads 15-20 in terminal cymules 2-3 cm high, 2-3 cm wide, overtopped by the leaves, the ultimate peduncles 1-4 mm long. Involucre cylindric, 5-6 seriate, imbricate, 8-9 mm long, 3-4 mm wide; bracts scarious, yellowish, glabrous, 5-7 striate, ovate to elliptical with rounded or obtuse apices. Receptacular pales similar to the involucral bracts but thinner, with orange oil-ducts, the apices somewhat 3-lobed and lacerate. Ray florets 1-3 pistillate, fertile; corollas yellow, the tube glabrous, ca 3 mm long, the ligule 3-lobed, ca 4 mm long, ca 2 mm wide. Disk florets 5-6; corollas yellow, glabrous, ca 6 mm long, the tube ca 1.6 mm long, the lobes ca 1 mm long, prominently margined with orange oil-ducts. Anthers yellow, ca 2.5 mm long. Style branches obtuse or rounded, hispid on the undersurface just below the apex. Achenes (+ immature) of the ray and disk florets similar, 4-sided, ca 3 mm long, 0.7 mm wide, flecked with blackened cells; pappus of ca 12 lacerate scales 0.6-1.0 mm long.

TYPE: MEXICO. OAXACA: Cerro Guingola al SW de Tehuantepec, ca 1110 m, abundante en Suelo calizo rocoso, 27 Nov 1983, R. Torres C. 4202 (holotype, TEX; isotypes MEXU).

The generic placement of this species is moot. It was my original intention to treat this as a monotypic genus within the tribe Coreopsidae, a tribe to which I would also append Tetrachyron. Wussow and Urbatsch (1979), however, see no strong Coreopsid connection, in spite of their detection of anthochlors among the phenolics, plus several morphological features that suggest this tribe. In any case, Tetrachyron oaxacana is apparently a remote member within its genus and tends to obscure the taxonomic chasm between it and Calea. Indeed, I sent material to Dr. Urbatsch, who has worked on both Calea and Tetrachyron, and he kindly gave the following assessment (pers. comm.): the plant concerned has the capitulescence, phyllaries, and corollas of Tetrachyron but possesses the pappus and prismatic (?) achenes of Calea; vegetatively it is more like Tetrachyron. He concluded that the species here described "looks like a toss-up".

I tend to agree that it is somewhere between these two genera but believe that it is closer to Tetrachyron. If there is a Coreopsid connection it would appear to be remote and possible through the genus Goldmanella which has an involucre, achenes, corolla and style branches more or less similar to Tetrachyron oaxacana, but its leaves are alternate and without glandular punctations. It is interesting to note that Greenman, in his description of Goldmanella, states "The plant here described in the appearance of the involucre suggests some of the Galinsogaeae, particularly Calea..." I believe he was referring to the Tetrachyron group of that genus, prior to its segregation by Wussow and Urbatsch. Certainly the hypothetical Coreopsid-connection needs careful scrutiny, particularly if the tribe Coreopsidae is accepted in the broad sense of Turner and Powell (1977).

I am grateful to Dr. Lowell Urbatsch for his helpful comments on the taxon, to Dr. Guy Nesom for the Latin diagnosis and to Dr. L. Vorobik for the fine illustration.

LITERATURE CITED

- Turner, B. L. 1985. A new species of Tetrachyron (Asteraceae-Heliantheae) from Oaxaca, Mexico. *Phytologia* 58: 389-391.
- Turner, B. L. and A. M. Powell. 1977. Helenieae-systematic review. In *The Biology and Chemistry of the Compositae*, Vol. 2, Heywood et. al., eds. Academic Press, London.
- Wussow, J. R. and L. E. Urbatsch. 1979. A systematic study of the genus Tetrachyron (Asteraceae: Heliantheae). *System. Bot.* 4: 297-318.

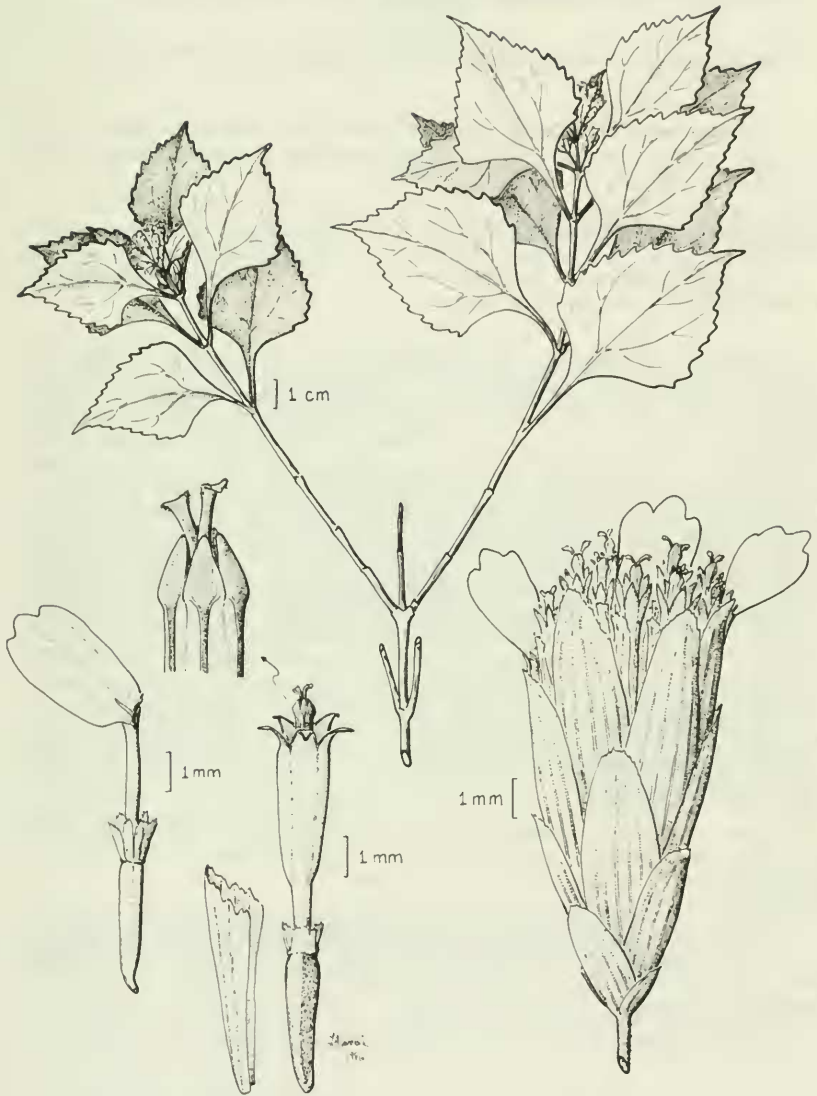


Fig 1 TETRACHYRON OAXACANA, from holotype.

Tetrachyron oaxacana (Turner) Turner
Turner (1986) *Phytol.* 10: 114, fig. 1